

## ABSTRACT

5 The present invention provides a system and apparatus for efficient and reliable,  
control and distribution of data files in large-scale distributed networks. The members of  
a group of servers in a multicast network elect a group leader whenever a new group  
leader is required, as when the prior group leader become unavailable, as detected by  
absence of a periodic heartbeat message published by the leader. The election is carried  
out by a system of voting by each candidate whereby each candidate has a priority  
10 calculated from its configuration, and the server with the highest priority is configured to  
claim the leadership faster than the other candidates. As part of the claim, each candidate  
multicasts its priority. Each candidate that receives a multicast claim for leadership from  
another candidate compares its own priority against the claimant and only votes for itself  
if its own priority is higher. After a preconfigured period of hearing no other claimants  
15 with higher priority, the candidate with the highest priority becomes the new leader.

#903441 v\1 -- 20496/4